



# LTE UNLICENSED UPDATE

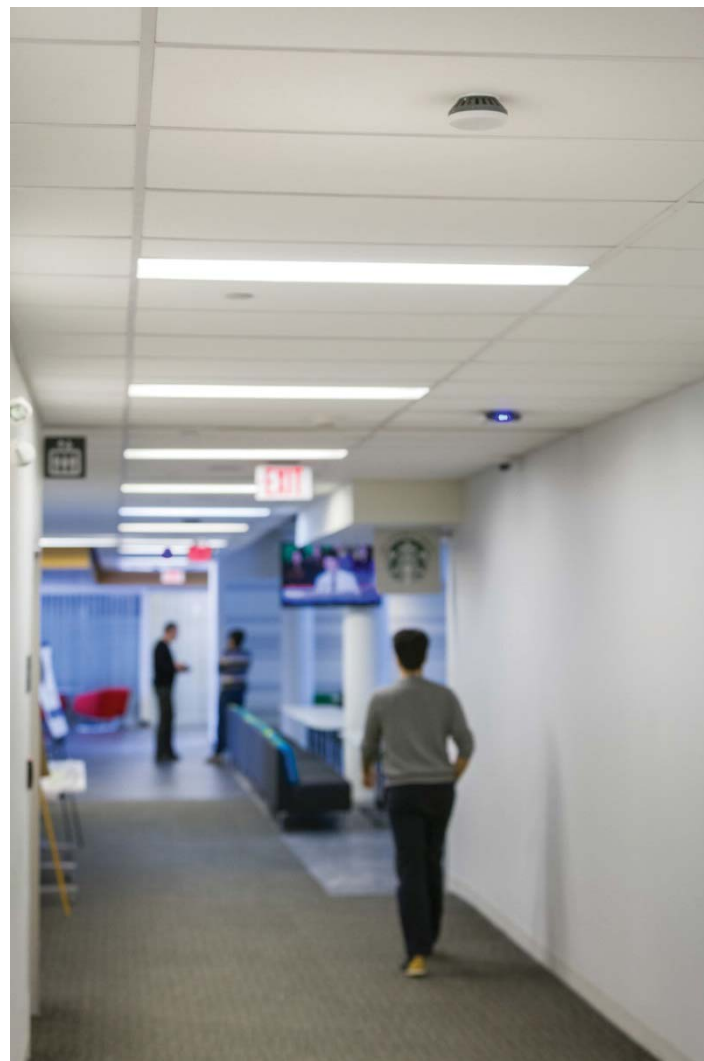
## PRESENTATION TO OET

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# AGENDA

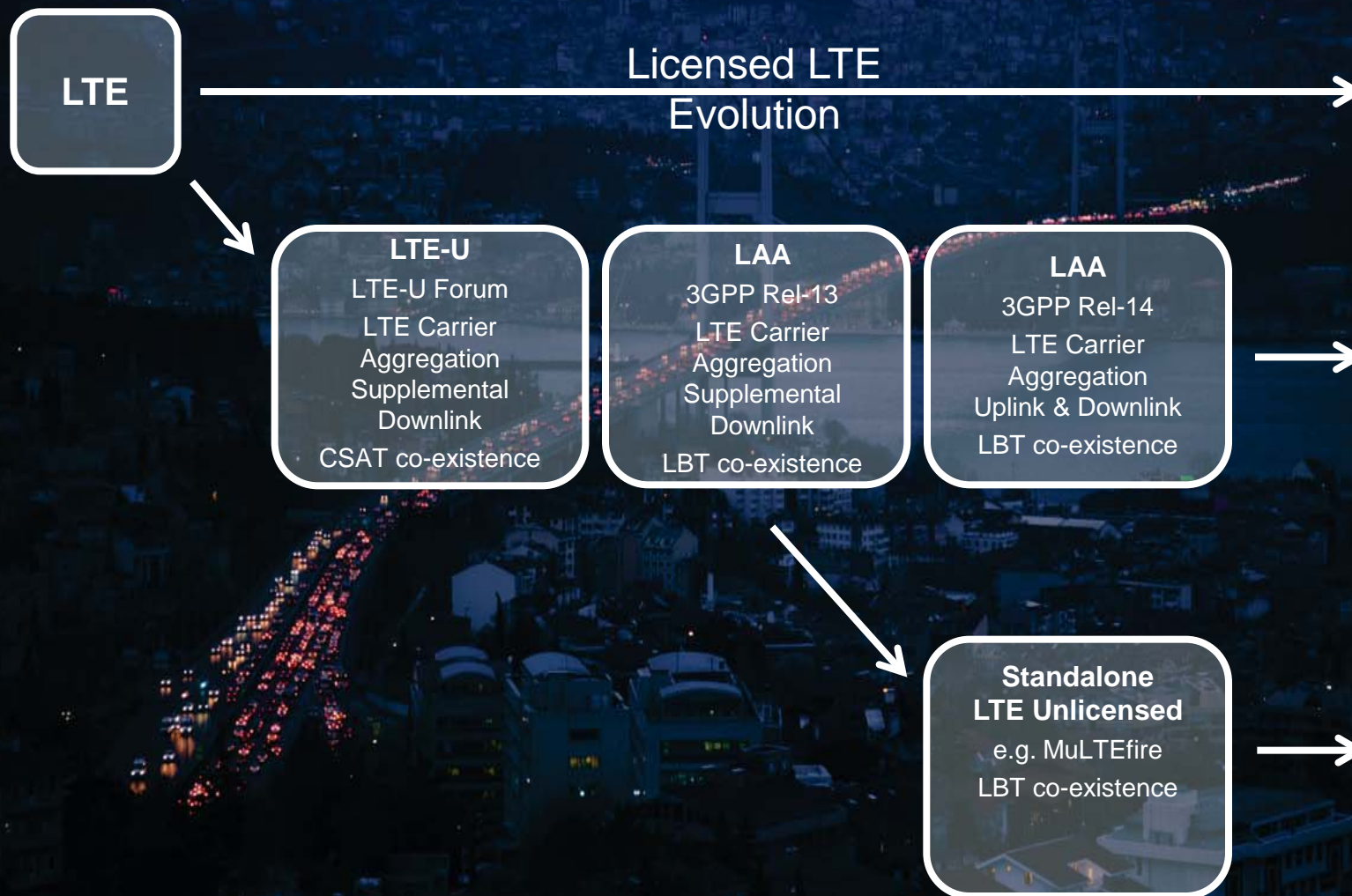
- › LTE Unlicensed Technology Roadmap
- › LTE-U
  - Ericsson Product Status
  - Wi-Fi Alliance Role in LTE-U
- › LAA
  - 3GPP and ETSI status



Ericsson LTE-U / LAA OTA product testing in Canada



# LTE UNLICENSED TECHNOLOGY OPTIONS



# ERICSSON LTE-U PRODUCT STATUS



- › May 2015: Ericsson files small cell LTE-U application for Part 15 type approval
  - Four Ericsson labs performing coexistence verification, including over-the-air in Canada
- › Current: Ericsson has 20+ trials / demos throughout the world
  - Planned or underway in Australia, Canada, China, Europe, Indonesia, Korea + the top 3 US cellular operators
- › FCC-granted STA
  - STA will include real-world environment coexistence tests
  - Sites identified and commercial agreements in place; preparing equipment and installation

# WI-FI ALLIANCE ROLE IN LTE-U



- › Wi-Fi Alliance Wi-Fi and LTE-U Coexistence Task Group
  - Examining LTE-U / Wi-Fi coexistence
    - › LTE-U Forum specifications have evolved, for example backward and forward compatibility with 3GPP Rel-13 LAA to support Listen-Before-Talk operation without UE changes
  - Final WFA test plan will not be known until mid-August at the earliest
    - › Timeline for the final WFA test plan has slipped – Originally Jan. Then April. Now August
    - › LTE-U vendors will not know if their products will require re-designing until mid-August 2016 or even later
    - › Scope, size and complexity is a moving target: plan includes tests unrelated to coexistence and is not technology neutral
- › Wi-Fi Alliance April Revision “A” test plan
  - 100+ tests covering all aspects of Wi-Fi coexistence: channel selection, dynamic channel sharing, Wi-Fi calling
  - By contrast: WFA Wi-Fi Certification consists of 1 coexistence test!
- › Importance of Permission-less Innovation

# LAA STATUS IN 3GPP AND ETSI



## › LAA in 3GPP

- 3GPP operates by consensus – ensures a compromise acceptable to all is reached
- IEEE & Wi-Fi industry fully participating and active
- Development of coexistence tests on track
  - › IEEE invited to review & submit comments on the LAA specs in Dec. 2015
- Specs are expected to be completed by June (including coexistence conformance tests)

## › LAA in ETSI

- IEEE & Wi-Fi industry fully participating and active
- Reaching consensus on all contentious issues including LBT, Energy Detect threshold
- Technology Innovation supported through regulatory changes
- Requirements to apply to all new technologies in unlicensed spectrum



**ERICSSON**